LETTERS TO THE EDITOR

The value of technetium-99m HMPAO leukocyte scintigraphy in infectious abdominal aortic aneurysm stent graft complications

Except for few articles that mention infections in endovascular series or case reports or experimental studies on animal models, the international literature lack studies focusing on endograft infections. Those few studies would place the overall endograft infection rate between 1% and 3.3%.[1-7]

However, we think that this rate has been underestimated. The frequency and severity of this complication need a deeper appreciation and greater use of proper methods for early and accurate diagnosis. Technetium 99 scintigraphy has been shown to be sensitive and accurate in the diagnosis of early conventional graft infection.[8,9] A recent case of ours, unique in the literature, shows the value of technetium 99 scintigraphy in the detection of endovascular graft infection and in the direction of the therapeutic management of this dramatic complication.

We observed a 74-year-old man with plasmocytoides lymphoma who had a 10-cm abdominal aortic aneurysm (AAA) suitable for endovascular repair. The aneurysm was successfully excluded with a bifurcated stent graft (Excluder, W.L. Gore, Inc, Flagstaff, Ariz), and the left internal iliac artery was embolized with Fibered Platinum coils. Intraoperative and postoperative antibiotic prophylaxis was administered. No endoleaks were seen, and the course was uneventful until the seventh postoperative month, when the patient had back pain and transient paresis of both legs. A spinal cord magnetic resonance and a spiral computed tomographic scan revealed a wide abscess involving the fourth and fifth lumbar vertebrae openly communicating with the AAA sac (Fig 1) Computed tomographic scan–guided drainage of the AAA sac cultured positive for *Listeria gravi/Murrayi.* After specific intravenous antibiotic therapy, abscess regression was shown. To resolve suspicion of an aortic endograft infection, technetium 99 scintigraphy was performed. A diffuse increase in leukocyte activity in the retroperitoneal space was most intense along the endoprosthesis, providing evidence of a graft infection (Fig 2) An axillobifemoral bypass was performed, followed in 10 days by stent graft explantation.

Operative findings included enlarged paraortic lymph nodes and a thickened aneurysmal wall, adherent to an intestinal loop with early aortoduodenal erosion. An opening in the aneurysmal sac communicated through to the prevertebral fascia and the fourth and fifth lumbar vertebrae space.

Histologic study of the aortic and periaortic nodal tissues showed no malignant disease. The patient recovered without adverse events and with improved overall condition and evidence of spondylodiscitis regression.

In this case, technetium 99 scintigraphy was crucial in establishment of the correct diagnosis and direction of proper management. Whereas the infection initially was thought to arise from the vertebral focus, the technetium 99m scan showed the major activity to be along the endoprosthesis, showing that the most probable origin of the abscess was the infected endograft. This experience suggests technetium 99 scintigraphy can be a valuable diagnostic tool and be extremely useful in the management of endovascular infective complications.

Francesco Speziale, MD
Annalisa Calisti, MD
Davide Zaccagnini, MD
Luigi Rizzo, MD
Paolo Fiorani, MD

First Department of Surgery
University of Rome 'La Sapienza'
Rome, Italy

Fig 1. Computed tomographic scan shows abscess in fourth and fifth lumbar vertebrae space with open path to AAA sac *(arrow).*

REFERENCES

1. Schlensak C, Doenst T, Hauer M, et al. Serious complications that require surgical interventions after endoluminal stent-graft placement for the treatment of infrarenal aortic aneurysm. J Vasc Surg 2001;34: 198-203.
2. Ohki T, Veith FJ, Shaw P, et al. Increasing incidence of midterm and long-term complication after endovascular graft repair of abdominal aortic aneurysms: a note of caution based on a 9-year experience. Ann Surg 2001;234:323-4.

3. Parry DJ, Waterworth A, Kessel D, et al. Endovascular repair of an inflammatory aortic aneurysm complicated by aortoduodenal fistulation with an unusual presentation. J Vasc Surg 2001;33:874-9.
4. D'Othee BJ, Soula P, Otal P, et al. Aorto-duodenal fistula after endovascular stent-graft of an abdominal aortic aneurysm. J Vasc Surg 2000;31:190-5.
5. Mita T, Arita T, Matsunaga N, et al. Complications of endovascular repair for thoracic and abdominal aortic aneurysm: an imaging spectrum. Radiographics 2000;20:1263-78.
6. Kolvenbach R, El Basha M. Secondary rupture of a common iliac artery aneurysm after endovascular exclusion and stent-graft infection. J Vasc Surg 1997;26:351-3.
7. Norgren L, Jernby B, Engellau L. Aortoenteric fistula caused by a ruptured stent-graft: a case report. J Endovasc Surg 1998;5:269-72.
8. Fiorani P, Speziale F, Rizzo L, et al. Detection of aortic graft infection with leukocytes labeled with technetium 99m-hexametazime. J Vasc Surg 1993;17:87-96.
9. Insall RL, Keavey PM, Hawkins T, Hayes N, Jones NA, Chamberlain J. The specificity of technetium-labeled leukocyte imaging of aortic grafts in the early postoperative period. Eur J Vasc Surg 1991;5:571-6.

24/41/123747
doi:10.1067/mva.2002.123747

Regarding "The saphenous vein: Derivation of its name and its relevant anatomy"

We were very interested in reading the above publication, authored by Drs Caggiati and Bergan.[1] The knowledge of the correct etymological origin of a scientific term is valuable since this could assist its proper usage.

We would like to raise the point that ancient Greeks had been using the adjective *safenes*, which had the same meaning as *safes*, ie, "manifest."[2] Like *safes*, its feminine form was also the same, *safenes*. Since Arabs knew the ancient Greek language and had translated ancient Greek sources, it seems reasonable to assume that they used the word *safenes* to describe the greater saphenous vein, which is visible at the ankle level.

Regardless of the correct etymology, we congratulate the authors for their elegant anatomical comments.

Stavros K. Kakkos, MD, MSc
Andrew N. Nicolaides, MS, FRCS

Irvine Laboratory for Cardiovascular Investigation and Research
Department of Vascular Surgery
London, United Kingdom

Cyprus Institute of Neurology and Genetics
Nicosia, Cyprus

REFERENCES

1. Caggiati A, Bergan JJ. The saphenous vein: Derivation of its name and its relevant anatomy. J Vasc Surg 2002;35:172-5.
2. Liddell HG, Scott R, editors. A Greek-English lexicon. 8th ed. Oxford: Clarendon Press; 1901.

24/41/124360
doi:10.1067/mva.2002.124360

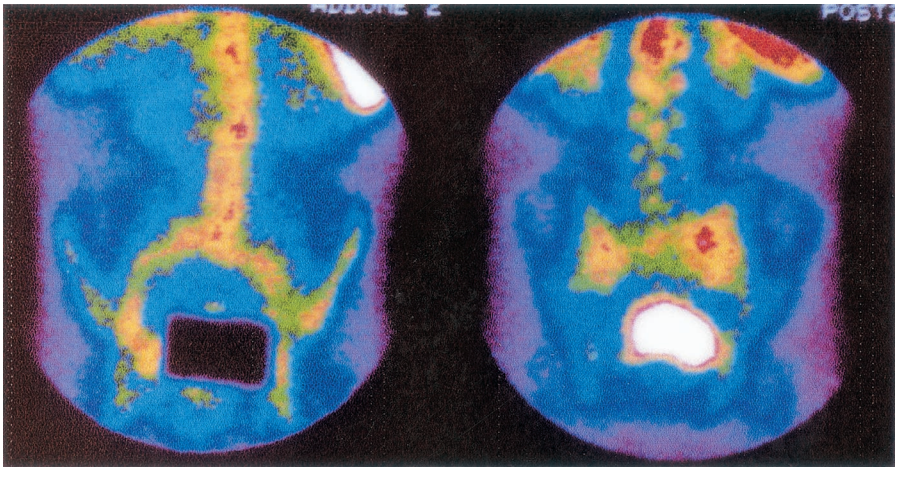

Fig 2. Technetium 99 scintigraphy shows diffuse leukocyte activity in retroperitoneal space, with most significant gain localized along endoprosthesis.